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Illinois Environmental Protection Agency
Office of Small Business

Managing and Reducing Parts Washer Wastes

Information presented in this publication is intended to provide a general understanding of the statutory and regulatory requirements governing parts washing. This information is not intended to replace, limit or expand upon the complete statutory and regulatory requirements found in the Illinois Environmental Protection Act and Title 35 of the Illinois Administrative Code of Regulations.

What is a parts washer?

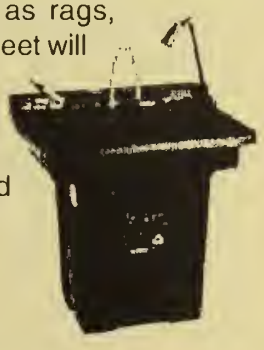
Parts washers are commonly used in manufacturing or maintenance operations to clean parts or components. Parts washers include cold cleaning units, vapor degreasers and conveyorized degreasers. Cleaning solutions used in parts washers include:

- **Solvents:** Solvents clean by dissolving away dirt. Solvents include petroleum-based solvents such as mineral spirits, stoddard solvent, and petroleum naptha, and organic solvents such as trichloroethane, trichloroethylene, benzene, and xylenes.

- **Aqueous Cleaners:** Aqueous cleaners are pH-neutral or alkaline water-based solutions that break down and remove dirt from part surfaces. Semi-aqueous solutions that contain small amounts of solvents are also available.

Why are parts washers a concern?

Parts washers use cleaning solutions that eventually become spent and must be disposed of. Spent parts washer cleaning solutions are considered a special waste in Illinois because they may be hazardous and are an industrial process waste. The fact sheet "Do I Have a Special Waste?" explains special wastes in Illinois. In addition, parts washers generate other wastes such as rags, filters, and sludge. This fact sheet will help you properly manage your parts washer wastes, comply with regulations applicable to parts washers, and reduce wastes generated.



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WHERE CAN I FIND MORE INFORMATION?

A material safety data sheet (MSDS) presents some of the information necessary to make a hazard classification and determine the proper disposal method for most commercial products and chemicals. Ask your vendor for information about the characteristics of the products you use and for a copy of the MSDS.

What are my hazardous waste regulation requirements?

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Is my spent parts washer cleaning solution a hazardous waste?

Spent parts washer cleaning solution is hazardous if one or more of the following applies:

- **Flashpoint of less than 140°F**
- **Contains solvents on the Illinois Environmental Protection Agency (EPA) hazardous waste list**
- **pH less than 2 or greater than 12.5**
- **Contains toxic metals or organic chemicals above regulatory limits**

Spent solvents are almost always a hazardous waste. Most commonly used solvents have flashpoints below 140°F, making them highly ignitable. A spent solvent can also be a hazardous waste listed on the Illinois EPA hazardous waste list, which means that it contains organic solvents that have been identified as being hazardous by the Illinois EPA. The wastes include solvents such as tetrachloroethylene, trichloroethylene, xylene, toluene, methyl ethyl ketone, and benzene. Spent solvents are also usually hazardous because they contain toxic

metals such as chromium and lead from parts and equipment cleaned in the parts washer.

Although most **aqueous cleaners** are nonflammable and nontoxic when purchased, they can qualify as hazardous waste after extended use because they may contain toxic metals from the parts and equipment cleaned in the parts washer. Spent aqueous cleaners can also be hazardous for corrosivity if the pH is less than 2 or greater than 12.5. Spent aqueous cleaning solutions may also be hazardous if they are contaminated with listed hazardous solvents or other toxic organic compounds applied to parts before washing, such as from aerosol sprays. For more information on listed hazardous solvents, toxic metals, and toxic organic compounds, contact the Illinois EPA Office of Small Business (Office of Small Business).

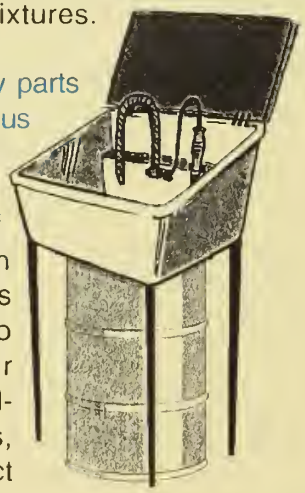
Are my other parts washing wastes hazardous?

Both solvent and aqueous parts washers generate sludge, which is usually hazardous because it contains toxic metals and solvents from the parts cleaned. Rags used to wipe parts off after being washed are also hazardous if they contain toxic metals at concentrations exceeding regulatory limits or listed hazardous solvents.

Many parts washers use filters that must be periodically changed. You need to determine if your used filters are hazardous by using the same process you used to determine if your solvent is hazardous.

The skimmed oil may contain hazardous waste. However, you may still be able to manage it as used oil. The fact sheet titled "How Do I Manage My Used Oil?" explains used oil mixtures.

What if I can't determine if my parts washer wastes are hazardous or nonhazardous?



If you cannot determine if your spent cleaning solution or other parts washing wastes are hazardous, you need to have them analyzed for ignitability, pH, listed hazardous solvents, toxic metals, and toxic organics. The fact sheet titled "Do I Have a Special Waste?" describes how you determine if you generate hazardous wastes. Contact the Office of Small Business for more information on classifying your wastes.

HAVE YOU CONSIDERED AQUEOUS PARTS WASHERS?

Aqueous cleaning has the following advantages over using solvents:

- ✔ Lower hazardous waste generation and management costs
- ✔ Less worker exposure to toxic chemicals
- ✔ Equal or better cleaning performance
- ✔ Reduction in cleaning labor with some aqueous cleaning units
- ✔ Large cleaning capacities
- ✔ Elimination of fire hazards
- ✔ Longer solution life

What are my waste management requirements?

If your parts washing wastes are **hazardous**, the following requirements apply:

- Hazardous liquids, filters, and sludge must be managed by a hazardous waste transporter and disposal company in accordance with hazardous waste guidelines.

- Rags can be managed by a commercial laundry service or hazardous waste disposal company. Rags without free-flowing liquid sent to a commercial laundry service do not need to be accompanied by a manifest.

If your wastes are **nonhazardous**, the following requirements apply:

- Nonhazardous spent aqueous cleaning solutions can be discharged to your city sewer system if certain requirements are met. See the water regulations section below for requirements.

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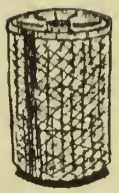

- Non-liquid industrial process wastes such as filters or rags that are not hazardous can be certified as nonspecial waste in Illinois and disposed of as general refuse. Requirements for this certification are explained in the fact sheet titled "Do I Have a Special Waste?".

- Used filters from aqueous parts washers should be drained to remove all free-flowing liquid. The drained filters can be managed in the same manner as non-liquid filters. If they are not drained or the filters are not certified as nonspecial, these used filters should be managed as special waste.

- Rags without free-flowing liquid can be managed by a commercial laundry service or disposed of as described in the fact sheet titled "Do I Have a Special Waste."

- Oil skimmed from an aqueous cleaning solution may be managed as used motor oil and recycled. See the fact sheet titled "How Do I Manage My Used Oil" to determine if your oil qualifies.

The fact sheet titled "How Do I Manage My Hazardous Waste?" explains how to determine the type of hazardous waste generator you are and which general hazardous waste requirements apply to you.

If you lease your parts washer, the service company may offer a service where they will pick up the cleaning solution or solvent when it is spent. Regardless, you are considered the generator of the solid waste and must manage the waste properly.

Is my business affected by water regulations?

Nonhazardous spent aqueous cleaning solutions can be discharged to the city sewer if they meet local discharge limits or with permission from the local publicly owned treatment works (POTW). The POTW may require you to treat your cleaning solution before discharging to the sewer. Contact your local POTW to find out their requirements. The discharge of cleaning solutions to the sanitary sewer also requires a permit from Illinois EPA. Spent parts washer cleaners, both solvents and aqueous cleaners, should never be discharged to a septic system or storm water sewer. For more information on permits and other water regulations that apply to your business, contact the Office of Small Business.

What do I need to know about air regulations?

All cold-cleaning, open-top vapor degreasing, and conveyorized degreasing operations that use organic solvents must meet organic material emissions standards and limitations set forth by the Illinois EPA. These requirements are related to operating procedures, equipment limitations, material specifications, and recordkeeping requirements and will vary depending on where your business is located in Illinois.

The National Emission Standards for Hazardous Air Pollutants (NESHAP) Halogenated Solvent Cleaning rule applies to facilities in Illinois that use one or more of the following four types of cleaning equipment, and one or more of the halogenated solvents listed in Table 1 at a concentration exceeding 5 percent in solution:

- Immersion batch cold-solvent cleaning equipment with a capacity exceeding two gallons
- Remote-reservoir batch cold-solvent cleaning equipment of any volume
- Batch vapor cleaning equipment of any volume
- In-line (continuous) cold or vapor cleaning equipment of any volume

If your business uses one of the halogenated solvents in Table 1, permitting, work practice, control, performance testing, and reporting requirements may apply to your business under the NESHAP rule. For more information on air regulations and how they apply to your business, contact the Illinois EPA Office of Small Business.

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Table 1. Solvents Affected by NESHAP

Halogenated Solvents Used in a Concentration Greater than 5%
Methylene chloride (dichloromethane)
Perchloroethylene (PCE)
Trichoroethylene (TCE)
Methyl chloroform (1,1,1-trichloroethane)
Carbon tetrachloride
Chloroform

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Solvents used in cold cleaning operations in the Chicago and Metro-East St. Louis ozone non-attainment zones must meet solvent vapor pressure requirements developed by the Illinois EPA. These requirements limit the solvent vapor pressure to 2.0 millimeters (mm) of mercury. Beginning March 15, 2001, the solvent vapor pressure limit will be reduced to 1.0 mm of mercury. The vapor pressure must be measured at 20°C or 68°F. The sale of solvents used for cold cleaning in these areas of Illinois is restricted to products that meet these requirements and requires the seller and the purchaser to keep records of the solvent purchase for three years. Contact the Illinois Office of Small Business for more information on cold cleaning solvent requirements and exemptions.

What are some good management tips for my parts washing system?

The suggestions below for using less hazardous parts washer cleaning solutions and maximizing the solution's life are important pollution prevention measures. In addition to environmental protection, pollution prevention can reduce operating costs, protect employees, and improve efficiency.

Use the least hazardous cleaning solution in your parts washer:

- ✓ Check the MSDS sheet before you purchase products - always use the least toxic material.
- ✓ Use a nonignitable parts washer cleaner (flashpoint greater than 140°F).
- ✓ Use aqueous cleaners instead of solvents.
- ✓ Avoid using listed hazardous solvents and prevent contamination of your cleaning solution with listed hazardous solvents by avoiding the use of aerosol spray cans near your parts washer.

Reduce wastes by maximizing your solution life:

- ✓ Only wash parts when necessary.
- ✓ Keep parts washers closed and away from heat to minimize product loss and air emissions from evaporation.
- ✓ Only change your cleaning solution when it no longer adequately cleans parts. Do not change your solution on a scheduled basis, and only allow contract pickups when necessary.

- ✓ Drain your parts thoroughly over the parts washer to reduce loss of cleaning solution.
- ✓ When using aqueous cleaning units, do not change the cleaning solution only because it looks dirty. Many solutions turn brown or gray during use, but this discoloration does not affect their cleaning ability.
- ✓ When using aqueous cleaning units, select units with filtration and oil skimming to remove solids and oil from aqueous cleaning solutions and extend solution life.

How do I obtain more information?

For more information on parts washers, hazardous waste, water and air regulations and pollution prevention tips call the Office of Small Business Helpline toll-free at (888) EPA-1996 or the DCCA Small Business Environmental Assistance Helpline at (800) 252-3998. All calls are considered confidential and the caller can remain anonymous. For other information about environmental issues, see the Illinois EPA web page at www.epa.state.il.us.